

$w = 4.0-10.0]$

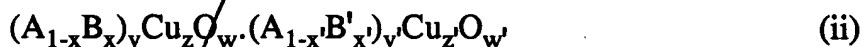
$y = 2.5-3.5$

$z = 1.5-3.5$  and

$w = 6.0-8.0$

A is one or more rare earth elements and B is more than one alkaline earth element when A is one rare earth element, and <sup>B</sup><sub>A</sub> is one or more alkaline earth elements when A is more than one rare earth element.

3. (Amended) A superconducting ceramic according to claim 1 of the general formula



in which

$0.1 \leq x < 1$

$0.1 \leq x' < 1$

$y = 2.0-4.0,$

$y' = 2.0-4.0$

$z = 1.0-4.0,$

$z' = 1.0-4.0,$

$w = 4.0-10.0,$

$w' = 4.0-10.0,$

A is one or more rare earth elements and B and B' are two or more different alkaline earth elements.

16. (Amended) A superconducting ceramic according to claim 1, of the general formula



in which

$0.1 \leq x < 1$

$0 < p < 1$

*23 cancelled*

$[y = 2.0-4.0$   
 $z = 1.0-4.0,$   
 $w = 4.0-10.0,]$   
 $y = 2.5-3.5$   
 $z = 1.5-3.5$   
 $w = 6.0-8.0$

A and A' are different rare earth elements and

B is an alkaline earth element.

*depends on cancelled clm - 247*

20. (Amended) A method for producing a superconducting ceramic according to <sup>Claim 16</sup> ~~any one of claims 1 to 19~~, which comprises mixing together stoichiometric amounts of the oxides and/or [carbides] carbonates of the constituent metals, in powder form, compressing the mixture to a [desired] shape and sintering the mixture at an elevated temperature.

*25*

21. (Amended) A superconducting copper oxide ceramic comprising two or more rare earth elements and/or two or more alkaline earth elements where the ratio of said rare earth elements, said alkaline earth elements, and said copper is 1:2:3 and having a polycrystalline <sup>layered</sup> ~~perovskite~~ <sup>Perovskite</sup> ~~like~~ structure of large crystalline particles providing reduced interfacial areas between crystalline particles and correspondingly elevated superconducting onset temperature.

Cancel claims 2 and 17.

REMARKS

Reconsideration and allowance of this application are respectfully

requested.

Referring to the rejection of claims 3-5, 9, 20, and 21 under 35 U.S.C. 112, second paragraph, claims 3-5, 9, and 20 have been amended to avoid the informalities noted in the Office Action. Thus claim 3 has been amended to recite that B and B' are two or more different alkaline earth elements, this amendment being supported by page 3, lines 16-21 of the application.

Moreover, claim 20 has been amended to change "carbides" to "carbonates". Moreover, the word "desired" has been deleted from this claim.

With respect to claim 21, it is respectfully urged that the term "perovskite-like" is a conventionally used term in the oxide superconducting art as exemplified by the attached article "Possible High  $T_c$  Superconductivity in the Ba-La-Cu-O System" by Bednorz et al. In this regard, see the Abstract thereof, line 4.

Referring to the objection to the specification and the apparent rejection of claim 21 under 35 U.S.C., 112, first paragraph, claim 21 has been amended to recite a superconducting copper oxide ceramic. Accordingly, it is urged that the specification and claim 21 are now in accord with 35 U.S.C. 112, first paragraph.

Referring to the rejection of claims 1, 12, and 20 over Politis, independent claims 1 and 16 have been respectively amended to incorporate therein the limitations of dependent claims 2 and 17. Claims 2 and 17 and, in particular, claims 2, 6-8, 10, 11 and 13-19 were objected to as being dependent upon a rejected base claim but were indicated as being allowable if rewritten in independent form to include all of the limitations of the base claim and any intervening claims. Accordingly, with the amendment of claims 1 and 16 to include therein the limitations of claims 2 and 17, it is

urged amended claims 1 and 16 are now allowable together with all claims dependent thereon including claim 12, which is dependent upon claim 1.

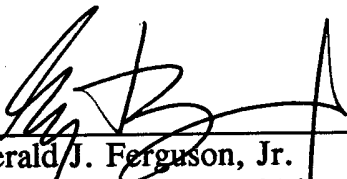
Although claim 21 was not specifically rejected over Politis et al., it is assumed that this independent claim was also intended to be rejected over this reference. That is, it is assumed the rejection of claim 20 over Politis et al. may have been a typographical error where claim 21 was intended. In any event, claim 21 has been amended to specifically recite that the ratio of the rare earth elements, the alkaline earth elements and the copper is 1:2:3 where this amendment is supported several places in the specification such as Example No. 1, page 8, line 21 where the ratio of the rare earth element (Y), the alkaline earth metals (Ba and Ca), and the copper are in the ratio of 1:2:3. Other examples are to be found at page 3, line 21; page 9, lines 14 and 26; page 11, lines 3 and 6; page 12, line 12; page 13, line 9; and claims 6, 7, 8, 18, and 19.

With the foregoing amendment of claim 21, this claim will distinguish over the Politis et al. reference for the same reason that amended claims 1 and 16, discussed above, distinguish over this reference. That is, referring to amended claim 1 (which incorporates the limitation of former claim 2),  $z = 1.5-3.5$  whereas the range on  $z$  (the Cu subscript) in original claim 1 was 1.0-4.0. When  $z = 1.0$ , this corresponds to the  $\text{La}_{1.8}\text{Sr}_{0.2}\text{CuO}_4$  superconducting oxide disclosed in Politis et al. (or other equivalent oxides disclosed therein) and thus is not in the 1.5-3.5 range now recited in amended claim 1.

With respect to amended claim 20,  $z$  would, of course, be three inasmuch as the ratio of the rare earth element, the alkaline earth element, and copper is 1:2:3. Accordingly, it is urged claim 21 is now allowable for the same reasons as are amended claims 1 and 16 and the claims dependent thereon.

In view of the foregoing amendments and remarks, it is urged this case is now in condition for allowance and a notice to that effect is requested.

Respectfully submitted,

  
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